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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/964,776	09/27/2001	William C. Norris	IN-5384	3006

26922 7590 04/01/2003

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EXAMINER
UHLIR, NIKOLAS J

ART UNIT	PAPER NUMBER
1773	

DATE MAILED: 04/01/2003

11

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/964,776	NORRIS ET AL.	
	Examiner	Art Unit	
	Nikolas J. Uhlir	1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 December 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) *none* is/are allowed.

6)☒ Claim(s) *1-32* is/are rejected.

7)☒ Claim(s) *1-32* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *8* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. This office action is in response to the amendment/request for continued examination (RCE)/declaration dated 12/13/02. It is noted that claims 1-32 are pending.

Claim Objections

2. Claims 1-32 are objected to because of the following informalities: In the instant case, claim I utilizes the symbols, "B," "(B)(I)," and "(B)(II)," to describe the color effect providing pigment, the pigment substrate, and the inorganic coating on the pigment substrate, respectively. The use of these symbols is not consistent in claim 1 (which first lists the pigment substrate with no symbol and then later refers to a pigment substrate accompanied by the symbol (B)), and is not utilized at all in claims 2-32, even when further limitations are required of the pigment substrate, inorganic coating or color effect providing pigment. The applicant should either 1. Delete the symbol terminology from claim 1, or 2. Utilize the symbol terminology uniformly in all of the instant claims in which the pigment substrate, inorganic coating, or color effect providing pigment is recited. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1-8, 10-11, 15-26, 28-32 rejected under 35 U.S.C. 103(a) as being unpatentable over Clark et al. (US5552487) in view of Schmid et al. (US5958125) and Witt et al. (US2002/0022128A1)

5. Regarding the limitations of claim 1, wherein the applicant requires a coating system comprising a substrate having a first color effect; and a film layer that is at least partially transparent to visible light and is applied on said substrate for producing a second color effect different from said first color effect of said substrate wherein said film layer is the reaction product of a curable, powder based coating composition comprising: a powder based binder comprising the reaction product of a resin having a functional group and a crosslinking agent reactive with said functional group of said resin; and a color effect pigment comprising: a pigment substrate having first and second substantially planar and parallel surfaces, and an inorganic coating disposed on at least one of said first and second substantially planar and parallel surfaces of said pigment substrate (B)(I), said inorganic coating (B)(II) having an index of refraction of 1.8 or less, wherein the color effect providing pigment is impact bonded with the powder based binder, wherein the inorganic coating (B)(II) and the pigment substrate (B)(I) of said color effect providing pigment (B) interact with said first color effect of said substrate to produce said second color effect upon application of the thin film layer of the powder based coating composition to the substrate.

6. With respect to these limitations, Clark et al. (hereafter Clark) teaches a method for coating a metal substrate with a thermosetting powder composition. This powder coating is a pigmented or clear coat powder composition that is preferably applied over a cured electrocoat. This powder coating includes a polymeric resin (equivalent to applicants claimed resin binder) and a suitable cross-linking agent (equivalent to applicants claimed crosslinking agent) (column 1, lines 36-45). Materials suitable for use

as the polymeric resin include polyester, acrylic, and epoxy resins. Cross-linking agents that are useful include acid anhydrides, aminoplasts, and blocked aliphatic and aromatic diisocyanates (column 2, lines 15-36). In addition to the polymeric resin and cross-linking agent, these coatings can contain 0-35% wt. pigments (column 4, lines 16-19) and can be directly applied to a metal substrate such as aluminum or steel (equivalent to applicants claimed substrate) (column 4, lines 27-29).

7. However, Clark fails to teach the inclusion of effect pigments into the powder coating composition, wherein the effect pigments are impact bonded to the resin and are comprised of a pigment substrate having substantially parallel and planar surfaces, wherein at least one of these substantially parallel and planar surfaces is coated with an inorganic coating having a refractive index ≤ 1.8 as required by claim 1.

8. With respect to these deficiencies, Schmid et al. (hereafter Schmid) teaches goniochromatic luster pigments based on multiply coated, non-metallic, platelet-shaped substrates that are at least partially transparent to visible light (Column 1, lines 1-4). The examiner takes the position that platelet substrates meet applicant's limitation that the substrate comprise substantially planar and parallel surfaces. This pigment comprises a platelet shaped non-metallic substrate, a first coating having a refractive index less than or equal to 1.8, a 2nd reflecting, non-selectively or selectively absorbing coating that is partially transparent to visible light, and an optional outer protective layer (column 1, line 10-16). Suitable materials for forming the first coating over the pigment substrate include inorganic materials such as magnesium fluoride, aluminum phosphate, and metal oxides such as silicon oxide, silicon oxide hydrate, aluminum oxide, aluminum

oxide hydrate, and mixtures thereof (column 3, lines 61-65). Schmid teaches that these pigments are useful for pigmenting plastics (column 1, lines 5-10) and exhibit angle dependent color and lightness effects (column 1, lines 26-29).

9. Therefore it would have been obvious to one of ordinary skill in the art a the time the invention was made to utilize the goniochromatic luster pigments taught by Schmid as the pigment utilized in the powder coating composition taught by Clark.

10. One would have been motivated to make this modification due to the teaching in Clark that the powder coating composition could comprise pigments, and the teaching in Schmid that the goniochromatic luster pigments were suitable for pigmenting plastics and exhibit angle dependent color and lightness effects.

11. However, Clark as modified by Schmid above still fails to teach a pigment that is impact bonded to the polymer resin in a powder coating composition.

12. With respect to this deficiency, Witt et al. (hereafter Witt) teaches a process for producing a powder coating material that comprises a resin binder (equivalent to applicants binder), and a color effect pigment, wherein the color effect pigment is coated with low density polyethylene or polypropylene (section 17). Suitable effect pigments include platelet shaped substrates made from aluminum or silicon oxide (equivalent to applicants claimed substrate with planar and parallel surfaces) that have been coated with a single layer or multiple layers of one or more colored or colorless metal oxides, including TiO_2, Fe_2O_3, SnO_2, ZnO, etc... (section18). Witt's process comprises the steps of melt processing the binder, polyethylene or polypropylene coated pigment, and other ingredients such as crosslinking agents, and processing the melt in an extruder to give

a homogenous mixture which is then ground to form the finished powder coating material. Witt teaches that by forming the powder coating in this manner results in a powder coating that does not have problems with the accumulation or depletion of the pigment particles on the surface of the object to be coated, which is a problem experienced by pigmented powder coating composition that do not utilize this process (sections 1-11).

13. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the process of Witt to pigment the powder coating composition of Clark et al. with the goniochromatic luster pigments of Schmid.

14. One would have been motivated to make this modification due to the fact that Witt teaches that utilizing the above described process to pigment a powder coating composition utilizing similar binders as that of Clark with a color effect pigment that closely resembles the goniochromatic luster pigments taught by Schmid avoids the problems encountered by prior art attempts to combine these components, namely, the process of Witt avoids the accumulation or depletion of the pigment on the surface of the substrate to be coated.

15. Although Witt does not explicitly state that his process "impact bonds" the pigments to the binder resin, the process disclosed by Witt closely resembles the process detailed on pages 15 and 16, paragraphs 37-38 of the instant specification, wherein the applicant mixes the effect pigment with the binder and the crosslinking agent, extrudes the mixture and the grinding the extrudate to form the powder based coating composition. It is of particular note that the applicant states that the processes

"may also be defined as bonding, more specifically impact bonding the color effect providing pigment with the powder based binder." Thus, as the process detailed by Witt closely resembles the process of the applicant described on page 15 and 16, the examiner takes the position that the limitation that the color effect pigment be "impact bonded" to the resin binder is met.

16. Regarding the limitations of claim 2, wherein the applicant requires the color effect providing pigment to further comprise a reflective, absorbing coating which is at least partially transparent to visible light. This limitation is met as set forth above for claim 1, as Schmid teaches that the goniochromatic luster pigments include a 2nd reflecting, non-selectively or selectively absorbing coating that is partially transparent to visible light, and an optional outer protective layer (column 1, line 10-16).

17. Regarding claims 3-5, wherein the applicant requires the reflective, absorbing coating be coated on the inorganic coating, and is formed from a selectively absorbing metal or a non-selectively absorbing metal. Schmid teaches that the second, reflective, selectively absorbing or non-selectively absorbing coating is formed from non-selectively absorbing metals or selectively absorbing metal oxides (column 4, lines 12-18). This coating is formed on a 1st inorganic coating layer, as described above for claim 1. Thus, these limitations are met.

18. Regarding claims 6-7, wherein the applicant requires an outer coating of a disposed on the reflective absorbing coating, wherein the outer coating is different from the reflective, absorbing coating and comprises a selectively absorbing metal oxide. Schmid teaches that the pigments can have an outer protective layer over the 2nd

reflective, selectively or non-selectively absorbing coating (column 1, line 10-16). Suitable materials for the outer protective layer include silicon oxide, silicon oxide hydrate, aluminum oxide, aluminum oxide hydrate, TiO_2, Fe_2O_3, and Cr_2O_3. Fe_2O_3 and Cr_2O_3 are taught to be selectively absorbing (column 6, lines 19-62)

19. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize Fe_2O_3, or Cr_2O_3 as the protective layer of the goniochromatic luster pigment taught by Schmid, as these materials are recognized to be equivalent for use as protective layers overtop the 2nd selective or non selectively absorbing coating.

20. Regarding claim 8, wherein the applicant requires the pigment substrate to be a metallic pigment substrate, a non-metallic pigment substrate, or a combination thereof. Schmid clearly teaches that the substrates utilized include non-metallic materials such as SiO_2 and mica (column 2, lines 60-67).

21. Regarding claims 10 and 11, wherein the applicant requires the pigment to be platelet shaped and have an average particle size of 5-50μm. The goniochromatic luster pigments of Schmid are platelet shaped and have a size of 5-100μ. Thus, these limitations are met.

22. Regarding claim 15, wherein the applicant requires the color effect providing pigment to have a multilayer interference structure that is symmetrical. Schmid teaches that each of the coatings on the pigment substrate is uniform, film-like, and covers the substrate on all sides (column 6, lines 63-67). Thus, because the coatings are uniform

and cover the entire substrate, the layered coating structure on the pigment substrate must be symmetrical.

23. Regarding claims 16-18, wherein the applicant requires the inorganic coating to be selected from a group of specific metal oxides. As stated above for claim 1, Schmid teaches that suitable materials for forming the first coating over the pigment substrate include inorganic materials such as magnesium fluoride, aluminum phosphate, and metal oxides such as silicon oxide, silicon oxide hydrate, aluminum oxide, aluminum oxide hydrate, and mixtures thereof (column 3, lines 61-65).

24. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize magnesium fluoride, silicon oxide, silicon oxide hydrate, aluminum oxide, or aluminum oxide hydrate as the 1st coating layer in Schmid, as these materials are recognized to be equivalent to the other materials listed as suitable for forming the first coating. The limitations of claims 16-18 are met when these materials are utilized to form the 1st coating layer.

25. Regarding claims 19-20, wherein the applicant requires the resin binder of the powder coating composition to be selected from the group of resins listed in claim 19 and contain a crosslinking agent selected from the group listed in claim 20. Clark teaches that suitable materials for use as the polymeric resin include polyesters, acrylic, and epoxy resins. Cross-linking agents that are useful include acid anhydrides, aminoplasts, and blocked aliphatic and aromatic diisocyanates (column 2, lines 15-36). Thus, these limitations are met.

26. Regarding claim 21, wherein the applicant requires the coating system of claim 1 to exhibit a second color effect that is different from the first color effect of the substrate by at least ΔL 20.0, Δa 10.0, and Δb 15.0 as measured by CIELab color space. It is noted that the applicant presents an example on pages 17 and 18 of the specification of a coating system coated onto a bare aluminum substrate. The coating system comprises a powder based binder of polyester and polyurethane, a blocked isocyanate cross-linking agent, and 5% by weight of a color effect pigment known as Variocrom® magic Purple K 5511. This coating composition resulted in a 2nd color effect differing from the first color effect of the substrate by ΔL 21.96, Δa 14.08, and Δb 19.36 according to CIELab color space. Variocrom® magic Purple K 5511 is defined by the applicant on page 13 of the specification as a color effect pigment having the structure $Fe_2O_3/SiO_2/ Fe_2O_3/SiO_2/ Fe_2O_3$. It is noted that Clark teaches coating aluminum substrates with a pigmented powder coating composition that comprises a polyester resin, a isocyanate cross-linking agent, and 0-35% wt. of a pigment (Clark, column 2, lines 15-36 and column 4, lines 12-15). Further, it is noted that Schmid teaches coating pigments that have Fe_2O_3 as a base substrate (Schmid Column 13, claim 3, and column 2, lines 51-55), an intermediate coating of SiO_2 (column 13, claims 1 and 6, and column 3, line 61-65), and an outer coating of Fe_2O_3 (Column 13, claims 1 and 7, and column 4, lines 48-50). In addition, Witt teaches a process for combining pigments such as those taught by Schmid with powder coating compositions such as those taught by Clark that is virtually identical to the process disclosed on pages 15-16 of the instant specification, which applicants state "impact bonds" the pigment to the resin binder. Thus, in light of

all of these similarities, the examiner takes the position that the applicants claimed CIELab requirements are be met by the combination of Clark, Schmid and Witt.

27. Regarding claims 22-25, wherein the applicant requires the powder based coating composition to be a powder clear coat applied on the substrate to produce said second color effect, wherein the second color effect is defined as interference or absorbance of light waves that establish angle dependent color and lightness effects. As stated above for claim 1, Clark teaches that a powder coating composition that is either pigmented or a clearcoat. Thus, the limitations of claim 22 are met. Regarding the limitations of claims 23, the examiner takes the position that the applicants claimed color and lightness effects will be met when the goniochromatic luster pigments of Schmid are incorporated in the composition of Clark, as the goniochromatic pigments of Schmid exhibit angle dependent color and lightness effects through light absorption, interference, or reflection as stated above for claim 1.

28. Regarding claims 26, wherein the applicant requires the coating system to comprise 0.1-10 parts by weight of the pigment to be added to the powder based binder. Witt teaches that the amount of color effect pigment incorporated into the resin binder of a powder coating composition is a results effective variable, wherein if <0.1% by weight of the pigment is added, the effect is not sufficiently developed, whereas if >50% by weight of pigment is added, the effect is impaired.

29. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to control the amount of goniochromatic pigment added to the

powder coating composition of Clark in order to achieve a desired level of color and lightness effects.

30. Regarding claim 28, wherein the applicant requires the substrate of the coating system to comprise an automotive body panel. The limitation in claim 28 requiring that the substrate be an "automotive body panel" is an intended use limitations and do not appear to be further limiting in so far as the structure of the product is concerned. "[I]n apparatus, article, and composition claims, intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art." *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967); *In re Otto*, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963). See MPEP § 2111.02.

31. Thus, although neither Clark, Schmid, or Witt do not specifically teach coating an automotive body panel, Clark does teach that the powder coating composition is utilized to coat aluminum or steel substrates. It is the examiners position that the coated aluminum or steel substrates taught by Clark as modified by Schmid and Witt are capable of being used as automotive body panels, as it is generally well known that automotive body panels that are coated with a decorative or protective coatings can been made out of a metal such as aluminum or steel.

32. Regarding claims 29-32, wherein the applicant requires an underlying film layer between the substrate and the powder coating composition, wherein the underlying film

layer is an electrocoat film layer, a primer surfacer layer, or a color providing basecoat layer. Clark teaches that the prior to applying the powder coating composition to a substrate, the substrate is coated with the powder coating, the metal substrate is typically provided with a pigmented primer-surfacer layer, which in turn can be applied to a bare metal substrate or to a substrate that has a thin cured or uncured electrodeposited primer layer on its surface (column 4, lines 38-55). Thus, the limitations of claims 28-21 are met. Regarding the limitations of claim 32, although the primer surfacer layer is not specifically referred to as a color-providing basecoat, this primer-surfacer layer is pigmented, and so necessarily meets the limitations of this claim.

33. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Clark as modified by Schmid and Witt above, further in view of Williams et al. (US5379947).

34. Clark as modified by Schmid and Witt fail to teach a coating composition having a 20 degree gloss of at least 65, as defined by ASTM D523-89, as required by claim 27.

35. However, it is important to note that Clark teaches that the powder coating can have a non-pigmented clear-coat applied over the powder coating composition (column 4, lines 55-60).

36. Further, Williams et al. teaches a coating composition that comprises a powder slurry (column 2, lines 24-25) The powder slurry comprises a powder material dispersed in a solvent such as water (column 2, lines 25-46). Suitable materials for the powder include resins such as an acrylic, epoxy, or phenolic resin (column 3, lines 32-38). These films are appropriate for use as basecoats and clear coats with a high degree of

gloss (column 4, lines 15-19). In example 2 (column 4), Williams et al. teaches a coating composition that comprises an acrylic resin, a blocked isocyanate, and other additives. This coating composition had a 20^0 gloss of 74.9 when it was applied to cold rolled steel (column 6, line 65).

37. Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to use the powder slurry coating composition as described by Williams et al. as the clear coat material disposed over the coating system described by Clark as modified by Schmid and Witt.

38. One would have been motivated to make such a modification due to the high 20^0 gloss one would expect to obtain in the resulting film.

39. Claims 1, 9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clark as modified by Schmid (US5607504), further in view of Witt

40. For the purpose of clarity, the second Schmid reference will be referred to as Schmid 504.

41. Clark is relied upon as stated above in section 6.

42. However, Clark fails to teach the inclusion of effect pigments into the powder coating composition, wherein the effect pigments are impact bonded to the resin and are comprised of a pigment substrate having substantially parallel and planar surfaces, wherein at least one of these substantially parallel and planar surfaces is coated with an inorganic coating having a refractive index ≤ 1.8 as required by claim 1.

43. However, Schmid 504 teaches goniochromatic luster pigments comprising a platelet shaped metallic substrate that is coated with a first layer of a low refractive

index coating that has a refractive index ≤1.8. The pigment are useful for pigmenting plastics and exhibit color flop not attainable analogous luster pigments containing a metallic layer (column 2, lines 15-30 and column 4 lines 27-32)

44. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the luster pigments taught by Schmid 504 as the pigment used in the powder coating composition taught by Clark.

45. One would have been motivated to make this modification due to the teaching in Clark that the powder coating composition can contain a pigment, and the teaching in Schmid 504 that the luster pigments described above exhibit color flop that is not obtainable with other luster pigments.

46. However Clark as modified by Schmid 504 does not teach "impact bonding" the pigment particles to the binder resin, as required by claim 1.

47. With respect to this deficiency, Witt teaches a method for incorporating luster pigments that closely resemble the pigments of Schmid 504 into a powder coating composition that closely resembles the composition of Clark, as relied upon above in section 12. This method results in a powder coating that does not have problems with the accumulation or depletion of the pigment particles on the surface of the object to be coated, which is a problem experienced by pigmented powder coating composition that do not utilize this process (sections 1-11).

48. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the process of Witt to pigment the powder coating composition of Clark et al. with the luster pigments of Schmid 504.

49. One would have been motivated to make this modification due to the fact that Witt teaches that utilizing the above described process to pigment a powder coating composition utilizing similar binders as that of Clark with a color effect pigment that closely resembles the luster pigments taught by Schmid avoids the problems encountered by prior art attempts to combine these components, namely, the process of Witt avoids the accumulation or depletion of the pigment on the surface of the substrate to be coated.

50. Although Witt does not explicitly state that his process "impact bonds" the pigments to the binder resin, the process disclosed by Witt closely resembles the process detailed on pages 15 and 16, paragraphs 37-38 of the instant specification, wherein the applicant mixes the effect pigment with the binder and the crosslinking agent, extrudes the mixture and the grinding the extrudate to form the powder based coating composition. It is of particular note that the applicant states that the processes "may also be defined as bonding, more specifically impact bonding the color effect providing pigment with the powder based binder." Thus, as the process detailed by Witt closely resembles the process of the applicant described on page 15 and 16, the examiner takes the position that the limitation that the color effect pigment be "impact bonded" to the resin binder is met.

51. Regarding claims 9 and 12, wherein the applicant requires the pigment substrate to be selected from aluminum, chromium, nickel, stainless steel, or a combination thereof (claim 9), or steel (claim 12). Schmid 504 teaches that suitable pigment substrates include Steel, copper, and aluminum (column 3, lines 54-59).

52. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to use steel or aluminum as the pigment substrate of Schmid, as these material are taught to be equivalent to the other materials listed as suitable for this purpose.

53. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clark as modified by Schmid 504 and Witt as applied to claim 1 above, and further in view of Suzuki et al. (JP8268345).

54. Clark as modified by Schmid '504 and Witt above does not teach using stainless steel as the pigment substrate as required by claim 13. Further Clark as modified by Schmid '504 and Witt does not teach using a stainless steel alloy that contains between 1-30 parts by weight of chromium based on 100 parts by weight of the alloy.

55. However, Suzuki et al. teaches an interference pigment that comprises stainless steel flake coated with titanium dioxide and titanium dioxide hydrate (page 4, section 0006. The stainless steel flake has a particle size between 20-30 μm and is made from the SUS316L alloy of stainless steel (page 6, section 12). SUS316L is a well known stainless steel alloy that comprises, .03% Carbon, 2% manganese, .045% phosphorous, .03% sulfur, 1% silicon, 17% chromium, 12% nickel, and 2.5% molybdenum based on 100 parts by weight of the entire alloy. Additionally, Suzuki et al. teaches that this interference pigment can be dispersed into a resin such as an epoxy, polyester or an acrylic to form a paint (page 6, section 0013). These stainless steel substrates are superior in safety, stability, light resistance, solvent resistance, heat resistance, and have metallic luster.

56. Although Suzuki et al. only discloses coating these substances with a high index material such as titanium dioxide, this does not preclude coating these substrates with other lower index materials. Suzuki et al. and Schmid et al ('504) are teaching the manufacture of similar compounds, namely interference pigments that have metallic luster.

57. Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to use stainless steel flakes as disclosed by Suzuki et al. as the pigment substrate for the metallic luster pigment composition described by Schmid et al. as modified by Clark et al above.

58. One would have been motivated to make such a modification due to the increase in stability, light resistance and solvent resistance of the pigment composition in the coating one would expect to gain as a result.

Response to Arguments

59. Although the bulk of the applicants argument are rendered moot by the new grounds of rejection, the examiner feels that it will be beneficial to discuss the applicants arguments relating to unexpected results.

60. As stated in the RCE dated 12/13/03, the applicants argue that instant invention exhibits unexpected color travel and brightness properties due to the color effect pigment being "impact bonded" to the binder resin. Applicant's declaration dated 12/13/02 states that coatings containing "non-bonded" pigment and coatings of the instant invention (which contain bonded pigment) were formed, and that the coatings

containing "non-bonded" pigment did not exhibit the color effect properties of the instant invention.

61. While the examiner does not refute the applicants findings, the applicants arguments as to unexpected results are not persuasive in light of the fact that the applicant presents no data in either the instant application or the declaration which shows that compositions containing "bonded" filler exhibit color effect characteristics that are superior then compositions containing "non-bonded" filler. The mere recitation that compositions containing "bonded" pigment exhibit better color effect properties then a composition containing "non-bonded" pigment is insufficient to establish on the record the attainment of the applicants argued unexpected results.

62. Further, with respect to unexpected results, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). As stated above, Clark teaches a method for coating a substrate with a pigmented powder coating composition comprising similar or identical binders as that of the instant invention. Both Schmid references teach luster pigments that are similar or identical to applicants claimed pigment. Finally, Witt teaches a method for combining luster pigments similar to the Schmid luster pigments with a powder coating composition similar to the compositions disclosed in Clark, via a method that is similar or identical to the method utilized by the applicant on page 15-16, paragraphs 35-38 of the instant specification with Clark citing a clear advantage for combining the pigment and binder in

this manner. Further, it is noted that the applicant specifically states in paragraph 38 of the instant specification that the "step of combining could also be defined as bonding, more specifically impact bonding, the color effect providing pigment with the binder." Thus, while applicant's results may have been unexpected, it has not yet been established on the record that these results would not have been obtained by simply following the suggestion of the prior art.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nikolas J. Uhlir whose telephone number is 703-305-0179. The examiner can normally be reached on Mon-Fri 7:30 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau can be reached on 703-308-2367. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-0389.

NJU

nju
March 21, 2003

Paul Thibodeau